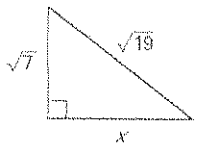
Homework 48
Pythagorean Theorem

Name:_____
Period:____ Date:_____

Failure to show all work and write in complete sentences will result in LaSalle!

1) Find the missing side length. Reduce all radicals.

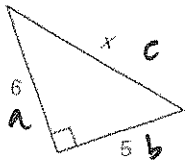


$a^2 + b^2 = c^2$

$(\sqrt{7})^2 + x^2 = (\sqrt{19})^2$

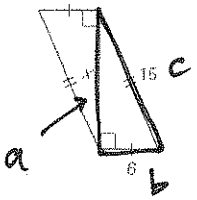
2) Find the missing side length. Reduce all radicals.

$a^2 + b^2 = c^2$

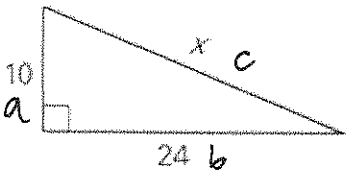


3) Find the missing side length. Reduce all radicals.

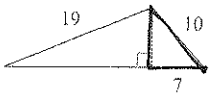
$a^2 + b^2 = c^2$



4) Find the missing side length. Reduce all radicals.



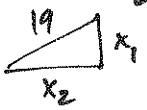
5) Find the area of the triangle below. Round to the nearest hundredth.



step 1:

$x_1 = \square$

step 2:



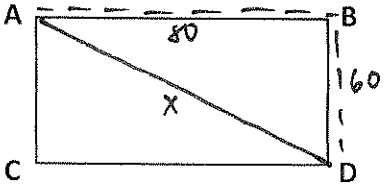
$x_2 = \square$

step 3: $A = \frac{1}{2}bh$

$A = \frac{1}{2}(x_1 + x_2)h$

$A = \square$

6) A rectangular field shown below is 60 feet wide and 80 feet long. Jaylin and Joyce are at point A. Jaylin walks to point D by walking along the edge of the field through point B. Joyce walks to point D by walking diagonally across the field. About how many meters more does Jaylin walk than Joyce?



Jaylin: $80 + 60 = \square$ → $\square$

Joyce: $80^2 + 60^2 = x^2$

$-\ x$

_____

7) Tell whether a triangle with the given side lengths is a right triangle.

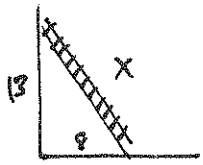
ex: $(4)^2 + (4\sqrt{3})^2 = 8^2$ true?

a) 4, $4\sqrt{3}$, and 8 _____

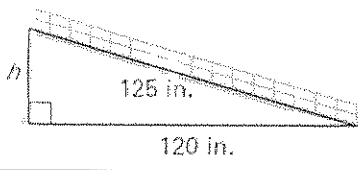
b) 5, 6, and $\sqrt{61}$ _____

c) 4.3, 5.2 and 9.5 _____

8) The top of a ladder rests against a wall, 13 feet above the ground. The base of the ladder is 8 feet away from the wall. What is the length of the ladder, rounded to the nearest whole foot?



9) A shipping dock has a mobile ramp that is used to help load and unload cargo from trucks. The ramp is 125 inches long and has a base that is 120 inches long. What is the height *h* of the ramp?



Mixed Review

1) What are the roots of the equation $y = x^2 - 4x - 32$?

$\frac{X}{X}$ _ ↑ multiply to get to -32

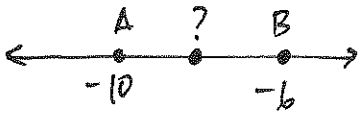
cross multiply & add to get -4

( )( ) = 0

x =
x =

2) On a real number line, the coordinate of a point *A* is –10 and the coordinate of point B is –6. What is the coordinate of the midpoint of *AB*?

A) –16
B) –8
C) –4
D) 4
E) 16



3) Find the slope of the following equation:
$2x - y = -4$

* $y = mx + b$
↑
slope

4) What is the distance between points (–4, –1) and (4, 3)? Leave your answer in simplest radical form.

$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

5) Simplify:
$(4yx^{-2}z^{-1})^4$ = _____

* no negative exponents

6) At what point will the line below cross the x-axis?
$2x + y = -1$

* cross x-axis when y=0

7) Opposite vertices of a square in the standard (x,y) coordinate plane have coordinates (4, 16) and (20, 0). What are the coordinates for the center of this square?

$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$

8) Simplify: $\sqrt{\frac{4}{9x^2}} = \frac{\sqrt{4}}{\sqrt{9x^2}} =$ ____

a) $\frac{2}{9x^2}$
b) $\frac{2}{3x^2}$
c) $\frac{2}{3x}$
d) $\frac{4}{3x}$
e) $\frac{4}{9x^2}$